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ABSTRACT

This paper examines mastery motivation in infants from birth to 3 years of age and outlines critical areas for parent and teacher involvement in the development of motivation, including recommended activities at each level. It asserts that from birth, children have an innate desire to learn about their world, quickly learning that they can control various elements within the environment and striving to maintain that control. With each new discovery, children's sense of competence strengthens. This competence intensifies mastery motivation and facilitates children's continued growth. Parents play an extremely important role in the developing child's life. In early infancy, they provide activities and arrange the environment to support emerging feelings of competence. During later infancy, parents allow children some freedom to explore, permitting them to become instigators of their own action rather than just reactors. As children approach age 3, toy selection should therefore reflect their developmental level. Caregivers need to use scaffolding in their interactions to allow children further control; encourage children to evaluate their own accomplishments; and remain flexible and respond to children's changing needs. Being responsive to children's developmental level and allowing them to function independently greatly supports the development of mastery motivation in infants and young children. Using these same techniques with preschool children can help them maintain their own intrinsic motivation for learning. (Contains 32 references.) (KDFB)

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Intrinsic Motivation in Young Children: Supporting the Development of Mastery Motivation In the Early Childhood Classroom

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Abstract

Young children are born with an innate curiosity to learn about their world. They proceed to take in information as quickly as they can just for the sheer joy of learning. This is what it truly means to be intrinsically motivated. By the time children reach school, much of that motivation has been lost or replaced with extrinsically motivated learning strategies. An investigation of early motivation, identified as mastery motivation, can give insight into the development of this very important area of learning. By understanding the beginnings of motivation, it may be possible to strengthen rather than weaken its influence in later years. This paper looks at infants from birth to three, outlining critical areas for parent and teacher involvement in the development of motivation, with recommendations for activities at each level.

Intrinsic Motivation in Young Children: Supporting the Development of Mastery Motivation In the Early Childhood Classroom

When a child is born, there is within that child an innate need to interact with the environment. These interactions lead to learning and the acquisition of knowledge. The motivation that drives this learning is based solely within the child and requires no outside rewards for its continuation. This motivation has been seen as human's inherent intrinsic motivation to learn (Deci, 1975). As children reach school age, many no longer possess this interest in learning (Stipek, 1988). What happens to this motivation, and what can we do to reinforce its development? The purpose of this paper is to look at the origins and development of intrinsic motivation in very young children, and to attempt to identify some of the factors that lead to the strengthening or weakening of this basic motivation.

Pintrich and Schunk (1996) define motivation as "...the process whereby goal-directed activity is instigated and sustained" (p. 4). Motivation is therefore an ongoing process, not a completed product, and that process is goal directed. The purpose of motivation is to instigate and sustain the activities that will keep the individual moving in the goal related direction. Motivation may be intrinsically motivated, extrinsically motivated, or a combination of the two.

Intrinsic motivation refers to the desire to participate in an activity merely for the pleasure derived from that activity. There are no explicit rewards or other external factors involved in the choice of the activity (Pintrich & Schunk, 1996). Conversely, an extrinsically motivated activity would be one that was engaged in for the sake of a desirable outcome, such as praise or reward. Is there any difference in the learning outcomes between students using these two types of motivation? Gottfried (1985) found that intrinsic motivation facilitates greater learning and achievement in elementary and junior high school students. This enhancement of learning occurs presumably because intrinsically motivated students are more involved in their learning, and use strategies to promote deeper understanding and future application of that learning. If intrinsically motivated learning is better than extrinsically motivated learning, then it would appear to be to the benefit of all educators to understand the functioning and development of this type of motivation.

Historical Perspectives

A brief overview of earlier work in the area of intrinsic motivation is presented to provide an understanding of present perspectives in the field. White (1959) proposed that people have an innate need to feel competent to master the environment, and feel a sense of personal agency. This *effectance motivation* is evident early in life as children strive to explore their environment and exert control over that environment. This behavior is persistent and goal-directed, and is continued because it satisfies the intrinsic need to deal effectively with the environment. White felt that this type of motivation was undifferentiated in early life and was directed toward mastery of whatever environmental features came into the attentional realm of the infant. As the child becomes older,

effectance motivation becomes more specialized and is directed in specific areas such as school achievement and the mastery of job skills. (Pintrich & Schunk, 1996)

Harter (1978) assumed that although success was important for effectance motivation, the importance of failure should also be considered in a child's development. How a child's failures are dealt with by others can determine how the child will deal with future failures. A certain amount of external reinforcement is also necessary to help that child further develop motivation. As the child continues to succeed, she will gradually internalize the reward system and form her own mastery goals. The ensuing self-reward system allows the child to supply her own reinforcement for further attempts at mastery. These successes help the child acquire a heightened sense of perceived competence in her own abilities.

de Charms (1968) perceived man's primary motivational drive as being the desire to be effective in producing changes in his environment. Intrinsically motivated behavior arises from this desire to feel personal causation. If one feels himself to be the cause of his own behavior, then he is more likely to be intrinsically motivated. If, on the other hand, he perceives that the locus of causation is external to himself, then he will be extrinsically motivated. Being in control of one's fate is a central factor in motivation (Deci, 1975).

Self-determination theory (Deci, Vallerand, & Ryan, 1991) follows along the same direction of thought on motivation as the preceding theories, but deals also with the issue of why an individual desires certain behavioral outcomes. Deci, Vallerand, Pelletier, and Ryan (1991) state that self-determination theory is concerned primarily with three basic psychological needs that are innate in human beings: the need for competence, relatedness, and autonomy (or self-determination). Competence is the belief that one can exert control over one's own environment. Relatedness involves the ability to develop secure and stable relationships with others in a social context. Autonomy is the self-regulating and self-initiating quality of one's own actions. The development of these three areas can easily be seen within the context of the very young child.

The first area, competence is discussed by Ford and Thompson (1985). They view infant competence development in terms of early personal agency beliefs and infant attachment. Personal agency beliefs are defined as: "1) beliefs about the responsiveness of the environment to one's efforts to attain desired outcomes, and 2) beliefs about one's ability to actually achieve these outcomes when given the opportunity to do so" (Ford & Thompson, 1985; p. 379). These perceptions of personal agency are linked to the infant's motivation to explore and learn from the environment. As the child interacts with the environment, certain events occur. If the child can relate her action with the reaction of the environment, a sense of control over that environment is gained. This sense of control strengthens feelings of competence within the child and leads to further exploration and experimentation. With each successful interaction, the sense of competence grows.

The second area, relatedness, begins within the bounds of attachment theory. (Ford & Thompson, 1985) "A secure attachment relationship is the primary index of social competence in the infancy period" (p. 393). Children who are secure in their relationship with a caregiver exhibit more exploration of their environment. They are

also able to use their caregiver as a secure base for their explorations even when stressed. Differences in the security of attachment have been seen to originate in the quality of infant-caregiver interactions during the first year. Mothers who are seen as more sensitive and cooperative with their infants during the first year usually have children who develop more secure attachments with their mothers. (Ryan & Powelson, 1991) The security of an initial relationship facilitates the ability to develop other meaningful relationships in later childhood. Feelings of relatedness to teachers and others involved in the educational process allow the child to feel motivated and free him to explore the learning environment.

The third area included in self-determination theory is that of autonomy, which deals with the need to regulate one's own behavior and to govern the initiation and direction of those actions (Ryan & Powelson, 1991. Children from homes where autonomy is supported tend to transfer their feelings of autonomy to school situations. Grolnick and Ryan (1989) .tudied 48 mother/father pairs with children in grades three through six to determine the effects of parent styles on children's competence. Each parent was individually interviewed with the information from these interviews subsequently being rated on the dimensions of autonomy support, involvement, and structure. The children completed three separate scales to assess their self ratings of self-regulation, perceptions of parental control, and perceived competence. The children's teachers completed rating scales covering the areas of classroom adjustment and academic competence. Finally, standardized achievement scores and classroom grades were obtained. From an analysis of this data, it was found that autonomy support was positively related to self-regulation, competence, and adjustment. Also, more involved mothers had children who were better adjusted and evidenced higher learning skills (Grolnick & Ryan, 1989).

Learning environments can be seen as either autonomy-supportive or controlling (Deci & Ryan, 1987) Autonomy denotes an inner sense that one's actions are coming from within one's self and that the individual has control of those actions. Controlling situations cause the individual to feel a lack of personal control over actions and little personal responsibility for those actions. Learning gained through autonomy-supportive events facilitates a feeling of self-determination and often results in greater understanding of the material being learned (Deci & Ryan, 1987). Inversely, learning in controlling situations tends to be more rigid and result in more rote-type learning that is less integrated with other aspects of the situation (Deci & Ryan, 1987).

From this preceding general overview of motivational development, several general statements can be made. First is the view that intrinsic motivation is innate and that it refers to a desire to pursue an activity for the pleasure derived from that pursuit rather than any overt reward or means-end relationship. Secondly, individuals strive to be competent and self-determining in relation to their environment. The components of motivation are competence, relatedness, and autonomy. While motivation becomes differentiated in the later years, infants are seen to have an undifferentiated need for competence. (White, 1959) This need is often referred to as mastery motivation.

"Mastery motivation is a psychological force that originates without the need for extrinsic reward and leads an infant or young child to attempt to master tasks for the intrinsic feeling of efficacy rather than because of current reward" (Morgan, MacTurk &

Hrncir, 1995; p. 6). Mastery motivation has been measured primarily through noting the duration of task-directed behaviors (such as trying to get a toy from behind a barrier or trying to put a piece into a puzzle). Mastery motivation is the basis for future intrinsic motivation in older children. Messer et al. (1986) studied the relationship between mastery motivation and competence in early childhood. Fifty-three infants were assessed at 6, 12, and 30 months in a laboratory playroom. Developmental status was determined at the beginning of the project using the Bayley Scales of Infant Development. During the sessions the children were given mastery assessment tasks appropriate for their age level, for example, removing objects from a box at 6 months and putting the objects into a box at 12 months. At the age of 30 months the children were all given the McCarthy Scales of Children's Abilities to determine their cognitive developmental level. It was found that assessment on the mastery tasks was a better predictor of the child's functioning on the McCarthy at 30 months than developmental assessment given at the beginning of the sessions. (Messer, et al., 1986) These findings suggest that the way a child attempts to master a problem may be a better predictor of later cognitive development. If these mastery attempts can be strengthened, then the future development of cognitive skills may also be strengthened. Research has proposed many hypotheses about factors that may influence a child's mastery motivation.

The development of mastery-oriented behavior

Mastery motivation is the psychological force that stimulates an individual to attempt to master a task that is challenging. Some aspects of mastery motivation include: "(a) a tendency to persist at tasks that are somewhat difficult, (b) an inclination/ preference for one's one physical and/or cognitive control over the environmental events (vs. passive observation of them), and (c) preference for at least some degree of challenge and/or novelty" (Barrett & Morgan, 1995, p. 59). Mastery motivation is intrinsic and needs no concurrent extrinsic rewards. It also involves behavior aimed at mastery rather than at the success of these attempts. It is expected that a child who is highly motivated toward mastery would be more likely to be successful, which would lead to later competence. Barrett and Morgan (1995) have divided the development of mastery motivation into three age ranges: birth to 9 months, 9 to 24 months, and 24 to 36 months. Each of these age ranges will be discussed separately, including the characteristics of the age, and pertinent research pertaining to development of mastery behavior within that time frame. These findings will be related to activities that parents and educators can use with children to expand and strengthen the development of mastery and intrinsic motivation for learning. A table covering suggested activities for each age level is included at the end of the paper.

Birth to 9 months

From birth, infants are able to control their sucking responses in order to produce an environmental effect (DeCasper & Carstens, 1981; cited in Barrett & Morgan, 1995). Newborns reproduce and increase the frequency of certain sucking patterns when such patterns turned on a stimulus. Infants in a laboratory situation were given a nipple to suck on. Their sucking would activate a stimulus which was pleasing to the child. Increased sucking would increase the rate of the stimulus. Infants shown the same stimulus noncontingent to their sucking did not increase the rate of sucking. This suggests that infants are predisposed to try to control their environments from birth.

Using slightly older infants (8-10 weeks old), Watson and Ramey (1972) employed a contingency mobile that could be activated by the child's movements attached to the infant's crib for a short period of time each day. The children who viewed mobiles that were activated by the child's movements within the crib, escalated the frequency of their movements whenever they were presented with the mobile. Children who were presented with mobiles that moved randomly or not at all, did not increase their typical movements while exposed to the mobile. It was found that the babies exposed to mobiles that moved in response to the child's actions began showing social reactions such as smiling and cooing within a few days of exposure to the contingency mobile (Watson & Ramey, 1972).

Lewis, Alessandri, and Sullivan (1990) also studied infants' facial expressions as indicators of mastery motivation. 80 infants ranging in age from 2 months to 8 months were placed in an infant seat with a string attached around their wrist. When the child pulled on the string, he/she would be shown a picture of a child smiling, along with some pleasing music. The children quickly became adept at controlling the stimulus and showed great joy upon being successful. When the responding stimulus was removed, the infants became angry and unhappy at not receiving the expected reaction to their actions.

Other research looked at parental influences during this period. Lewis and Goldberg (1969) proposed a generalized expectancy model deriving from mother-infant interactions. While viewing the interactions of 20 mother-child dyads, scorers rated the mothers' reactions to their child's exploratory activities within the laboratory situation and at home. The researchers concluded that the mother's consistent reinforcement of infant actions created within the infant an expectancy that his/her actions would have an effect on the environment. By providing toys that would reinforce this feeling of environmental control (i.e. toys that actually manifest a change when manipulated), the mother can insure that the child will continue to experience self-reinforcement of the expectancy of control.

Yarrow et al. (1984) studied the effects of parental stimulation on the development of mastery motivation in a longitudinal study of children from age 6 months to 12 months. Through home observations, the researchers rated parents on the amount of sensory stimulation (such as: prompting motor acts, tactile and kinesthetic stimulation, and stimulation with an object) the parents routinely provided for the child. They found that there was a correlation between the total amount of sensory stimulation the infants

received and their persistence on mastery tasks. Correlations were even stronger between sensory stimulation and persistence on problem solving tasks

In a final study with young infants, Yarrow, Rubenstein, Pedersen, and Jankowski (1972) investigated both the inanimate and the social environment and their possible relation with different facets of the infants' development. They observed 5 month old infants in their homes on two separate occasions for a total of six hours for each child. They found that the inanimate and the social environment function independently to foster mastery motivation within the child. Social stimulation extends the development of social responsiveness and language, whereas the inanimate stimulation furthers exploratory behaviors. The infant's orientation to both objects and people become a part of a feedback system with the environment. (Yarrow et.al., 1972) This system influences the infants' functioning over a long time period. The variety of inanimate objects presented was positively correlated with the amount of exploratory behavior exhibited by the child, and complexity of the objects. It was also found that the responsiveness of both the social and the inanimate environment facilitated the motivational and skill components of development.

9 months to 24 months

During the period form 9 to 24 months, infants continue to try to control events and are better able to decide which means will accomplish particular ends (Barrett & Morgan, 1995). Success is still not based on externally imposed standards because mothers tend to reward all attempts, but is based on the infant's ability to accomplish desired ends. Infants begin to evaluate themselves and are motivated to do things for themselves. (Barrett & Morgan, 1995)

The greatest influence in an infant's life is that imposed by the primary caregiver. Because in many cases this role is still fulfilled by the mother of the family, much research has dealt with various aspects of maternal influence. Hendrickson and Hansen (1977) developed a system for viewing the varying behavioral and exploratory patterns of children between the ages of 12 and 19 months. While they identified several different patterns of exploratory behavior, they found that the mother's responsive behavior to the child was the most important factor of determining future competence across all patterns. Mothers who were responsive, but who did not instantly answer every request from the children were more likely to rear competent children. These children appeared to be able to competently explore with little mother-child interaction, knowing that mother was there when needed. In these children, the exploration could be more free and lead to greater development of competence. (Hendrickson & Hansen, 1977)

Jutta Heckhausen (1987a) was interested in what information was used by individuals, especially mothers, when determining appropriate interactions with infants. Did mothers base their instructional efforts on a child's chronological age or on a perceived developmental age? Basing her work on Vygotsky's concept of the zone of proximal development, Heckhausen proposed that mother's react to the developmental level of their children rather than to some idea of age relevant behavior. While mothers helped their children perform tower building and shape sorting activities, the mothers used specific information related to the child's current performance rather than how the

child might be expected to perform at this age. In a further study, Heckhausen (1987b) labeled the mother's approach to helping their children the "one step ahead" model of instruction. Using this approach, the mothers focused on those aspects of the task that were slightly beyond the child's current mastery. The children tended to attain those levels of mastery upon which their mother's focus rested.

Yarrow, et al. (1984) noted that parental attention focusing skills were not related to mastery skills during the young infant age range. This now becomes an important factor in parental interactions with older infants. Belsky, Goode, and Most (1980) investigated mother/child interactions in two different settings, first in a home setting, and then within an experimental setting. In both instances, the researchers found that maternal stimulation teaches a child how to focus his or her own attention which enhancing the child's exploratory competence. The infants who display the greatest amount of competence while exploring have mothers who frequently focus their attention on objects and events within the environment.

Jennings, Harmon, Morgan, Gaiter, and Yarrow (1979) utilized exploratory play as an index of mastery motivation. They found that measures of the quantity of exploratory play had no relationship to persistence or cognitive development, while measures indicating the quality of exploratory play did relate to future development. Infants whose mothers play more often with them tend to initiate fewer of their own explorations, resulting in infants who show less mastery motivation. Mothers who interacted less often but facilitated discovery and exploration in their infants when they did play with them, tended to have children who persisted longer on difficult tasks. Gaiter, Morgan, Jennings, Harmon, and Yarrow (1982) found that the variety of cognitively oriented activities that are provided for the infant is positively related to overall persistence.

Frodi, Bridges, and Grolnick (1985) found that infants of mothers who supported their child's autonomy by allowing them to freely explore the environment tended to exhibit more overall persistence plus more competence and positive affect at 20 months of age. Maternal sensitivity, defined as being sensitive and responsive to the child's communications, related highly with persistence and competence. Finally, mothers who controlled their children's behaviors through the use of supportive rather than punitive corrections tended to have children who scored higher on ratings of persistence, competence, and positive affect.

A mother's affective response to particular aspects of the environment can also have consequences within the child's responses. Gunnar and Stone (1984) presented three toys to 1-year-old infants. One toy, a music box, had been determined to elicit positive affect during pilot testing; a second toy, a robot with a machine-like voice, had elicited an ambiguous response during testing; and the final toy, a cymbal clashing monkey, has elicited a strong avoidance response during testing. As these toys were visually presented to the children, half of the mothers were told to encourage their infants and to be happy and relaxed. The other half were instructed to be neutral during the toy presentations. The mothers' affective presentations had no effect on the positive and avoidance producing toys, but did have an effect on the child's reaction to the ambiguous toy (Gunnar & Stone, 1984) . When the mother was happy and positive, the infant was reassured and responded positively to the toy, but no changes in behavior

were noted when the mothers remained neutral during the toy exposure. This research indicates that infants look to their mothers for ways of reacting in ambiguous situations, and that positive maternal responses can elicit the same responses in children in ambiguous situations.

Wachs (1987) investigated several aspects of the home environment and how they affected the mastery motivation of 88 one year old infants. Aspects observed within the physical environment included: child's daily schedule (naptimes and feedings); child access to magazines, books, small manipulable non-toy objects; ratio of number of rooms to people in the home; new toys received; and physical restrictiveness of home to exploration. Social interaction observations included: parental involvement with child; spontaneous vocalizations of parent with child; objects and activities labeled for child; percent of nonresponses to child's vocalizations; frequency of child being held; interference with child's ongoing actions; and number of times objects given, shown or demonstrated to child. The child's temperament and level of mastery motivation were assessed during several sessions in a laboratory setting. One major finding of this study was that there was a negative relation between the level of a child's mastery with objects and the amount of parental interference with the child's interactions with objects (Wachs, 1987). The more a parent interferes with the child's independent exploration with objects, the less the child will progress toward mastery of that object. Another finding was that the availability of toys that are responsive to the child's actions in the home setting seem to provide the child with more strategies for dealing with unfamiliar toys in the laboratory setting. Children who have not dealt with responsive toys at home become distressed in the laboratory sessions by toys that are suddenly responding to their actions. Although the laboratory toys may be unfamiliar to all of the children, those infants who are used to responsive toys seem more able to deal with the stress caused by these new toys than those children who are not familiar with responsive toys (Wachs, 1987).

24 months to 36 months

According to Barrett and Morgan (1995), children ages 24 to 36 months are beginning to develop an appreciation for standards, self-awareness, and self-evaluation. They are also developing the ability to execute a sequence of behavior to achieve a goal. These types of behavior act to transform mastery motivation into achievement motivation. By three years of age, "toddlers become oriented toward doing *well* at socially valued tasks (typically viewed as achievement motivation)" (Barrett & Morgan, 1995, p. 82).

Lewis, Alessandri, and Sullivan (1992) presented children (ages 33-37 months) with easy and difficult tasks and observed the children's emotional responses of shame and pride. They found that the children were able to evaluate their own behavior and to respond appropriately to successes and failures. The children were able to sense which activities were harder for them, and they experienced greater pride when accomplishing these difficult tasks, with less shame when failing to accomplish them. When tasks were determined to be easy by the children, shame was observed if the task was failed, but only minimal pride was exhibited for successes.

Parental teaching styles remain of importance during the toddler years. Pratt, Kerig, Cowan, and Cowan (1988) investigated authoritative parenting and scaffolding of learning experiences of 3-year-olds with their parents. Both mothers and fathers were given separate tasks to work on with their children. It was found that parents who successfully helped their children work through the tasks showed very similar patterns of responding. These parents responded to their children by giving less support after success and more support after failures. Parents responded to improvements of the child by systematically reducing their level of task support. The children were allowed to participate and accomplish as much of the task on their own as possible. This technique used by the parents in this study is the basis for the scaffolding technique.

The use of scaffolding techniques become very important during the toddler years. Scaffolding is a tutoring technique based on the work of Vygotsky (Berk & Winsler, 1995). Using this technique, an adult works with the child on an activity that is slightly above the child's ability to do on his own. The adult guides the child's activity and provides the necessary support for the child to continue the activity. This guiding is done not only by helping the child perform the task, but more importantly by asking leading questions that allow the child to discover the solution to the task on her own. As the child becomes more skillful, the adult pulls back and allows the child to become more independent. This drawing back continues until the child is able to complete the activity completely on his own.

Children early in the toddler years are becoming increasingly aware of the multi-step nature of tasks (Barrett & Morgan, 1995). While simple cause-and effect toys such as a pop-up toaster, were appropriate at earlier ages, more complex combination toys are now needed. A ring stacking toy that requires a sequence of actions for solution would be more appropriate for example for the toddler.

Early in their second year, children become able to select appropriate tasks on their own due to a rapidly developing self-awareness (Busch-Rossnagel, Knauf-Jensen, & DesRosiers, 1995). While it may be difficult for caregivers to relinquish their role in the selection of activities, parental scaffolding is still necessary for the learning of more complex sequential skills. Since the provision of appropriately challenging toys is positively related to persistence, the parent still has a very necessary role in providing inspiration for their child's development

All of the above activities and suggestions that have been made are easily translated to infant and toddler caregivers in the daycare. Setting the environment and providing appropriate toys for children are the basis for motivational development. Giving the child challenges and allowing him to explore on his own with limited restrictions will further the development of the child's curiosity and interest. Also by working with the children in a scaffolding procedure rather than always providing them with the right solutions will result in stronger motivation to continue learning.

When applied to older children who are moving on to preschool classes and prekindergarten situations, the same guidelines should apply. Children need structure that allows for free exploration. They should be challenged and allowed to set their own goals and to evaluate their own successes. Setting the environment for this type of learning is of utmost importance. Toys and activities need to be carefully selected to

provide the correct amount of challenge and to engage curiosity. Scaffolding techniques properly utilized will help the children develop to their highest potential.

Summary

From birth, children are instilled with an innate desire to learn about their world. They quickly learn that they can control various elements within their environment and they strive to maintain that control. With each new discovery, the child's sense of competence strengthens. It is this competence that intensifies mastery motivation and facilitates the child's continued growth.

Parents play an extremely important role in the life of the developing child. In early infancy, the parents provide activities and arrange the environment to support the child's emerging feelings of competence. During later infancy, the parent continues to supply the child with appropriate toys and activities, but now begins to allow the child some freedom in exploration. The child is becoming more able to choose and instigate his/her own activities and should be allowed the liberty to do so. This permits the child to become an instigator of his/her own actions rather than just a reactor to the actions of others.

As the child approaches age three, the selection of toys should reflect the child's individual developmental level. Caregivers need to be employing the techniques of scaffolding in their interactions with children. This further allows the child control of his/her own activities. The child should be encouraged to evaluate his/her own accomplishments without undue assessment by others. Activities that were applicable to the newborn may become a hindrance to development if extended into later years. If a caregiver can remain flexible and respond to the changing needs of the child, then mastery motivation can be enhanced throughout the child's early development.

When the child moves into the preschool years, it would follow that the same type of general rules that applied to fostering mastery motivation in infancy would carry through for promoting future intrinsic motivation. Parents and teachers must remain responsive to the needs of the individual child at whatever level of functioning. Children must be allowed to continue to explore and instigate their own activities. Scaffolding techniques can help guide any child through new learning activities without interfering with the child's own motivation.

Being responsive to the child's developmental level and allowing the child to function independently greatly supports the development of mastery motivation in infants and young children. Using these same techniques with preschool children can help the children maintain their own motivation for learning in the same ways. Allowing children to develop to their fullest potential can help them maintain their innate motivation and excitement in learning throughout the school years.

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Table 1
Specific activities to increase motivation for learning

Age ranges	General activity	Examples
0-9 months	Responsive toys	• Ball that makes noise when rolled across the floor • Rattle • Crib mobiles
	Create an atmosphere of environmental responsiveness by consistently reinforcing the child's actions	• Respond when the child cries • Play with child when his actions indicate a desire to do so
	Provide frequent sensory stimuli	• Present objects of various textures • Use bright contrasting colors in child's room and crib • Play music of varying types
	Provide a wide variety of toys, with new ones presented at intervals interspersed with more familiar ones	• Action toys • Sensory stimulating toys
	Respond to child's social attempts	• Talk to child as if in conversation • Repeat back the sound that child has just made • Return smiles that child initiates
9-24 months	Be responsive but not as quickly as in prior age range	• Respond to real needs for help • Allow child time to solve own difficulties when possible without interfering
	Allow for free exploration while remaining available for backup support	• Make the child's play area safe for independent exploration so that adult supervision is not constantly necessary • Allow free exploration with mom available when needed for security support
	Relate activities to current developmental level	• When child has just learned to sit up, place toys on the floor that can be manipulated with the hands in front of child • When child first begins to walk, provide toys that the child can push ahead of him as he walks
	Use the "one step ahead" approach for teaching new skills	• Present activities that are slightly beyond the child's abilities • Help child perform the new activity until able to perform it on his own

9-24 months	Allow child to instigate his own activities	• Present child with a new toy and allow him to play with it as he wants to rather than showing him how to play with it • Participate in the activity that the child has chosen for the new toy
	Continue to present responsive toys	• Give child toys that are more age appropriate than earlier toys, but that are also responsive to her actions • Some toys that would provide this stimulation are: Peg bench where pegs can be pounded into the bench from either side; Jack-in-the-box; toy with many small doors that reveal different animals when keys are turned, dials are spun, etc.
24-36 months	Present toys that require sequential steps	• Puzzles with multiple pieces • Animals that are constructed by putting together three or four blocks
	Present challenging toys	• Toys that are a little too hard for the child, that require persistence to complete, making sure that the level of difficulty is still within the child's grasp
	Use scaffolding techniques	• Follow the one step ahead approach • Continue to help when needed, but begin to back away from helping as soon as possible until the child is able to complete the activity on her own
	Allow for the child to employ self-evaluation to own activities	• When child completes an activity, allow him to tell you how well he has done • Do not evaluate the final product for him, but discuss his feelings about its merit